

MEMORANDUM

TO: Donna Barron, City Manager

VIA: Keith Marvin, P.E., Director of Public Services

FROM: James Wallingsford, Utility Line Maintenance Manager

DATE: August 7, 2019

SUBJECT: **Approval of a Professional Services Agreement with RJN Group, Inc., Dallas, TX, in the Amount of \$131,400 for Professional Engineering Services for Castle Hills-Condition Assessment for Sanitary Sewer & Water Distribution System; and Authorization for the City Manager to Execute the Agreement.**

BACKGROUND

As the City prepares for the possibility of annexation of Castle Hills various analyses and assessments of the impact of taking on the maintenance and operations of this additional area are being conducted. The Public Services Department's role in this area includes assessments of the civil infrastructure currently in place. While the Castle Hills water distribution and wastewater collection systems are owned by Lewisville, water and wastewater operation, inspection, maintenance, and repair services are administered by Denton County Fresh Water Supply District 1-A. Third party assessments are necessary to determine the condition of these assets, and the effect on the City's provision of services upon annexation.

ANALYSIS

At the August 5, 2019 City Council meeting, a PSA with HDR Engineering was approved for assessment of the Castle Hills pumping and storage facilities.

The PSA before you today will assess the condition of the distribution and collection system piping and appurtenances. In order to complete that assessment, consultant will first complete the GIS mapping of assets within Castle Hills. This will include review and digitizing as-built and design drawings in city records. Any areas where the city does not have as-built drawings, the consultant will conduct field investigation to complete the GIS database.

The completed GIS database will then be used in the previously approved PSA with HDR to perform water distribution system modeling. This modeling will help develop system operation plans for the combined City/District water system.

Consequence of Failure (COF) and Likelihood of Failure (LOF) ratings will be calculated and then entered into a Risk Analysis Matrix to generate a grade on a scale of 1 to 5. A grade will be

provided for each asset in the sanitary sewer and water distribution system. The sanitary sewer report card grade is based upon depth of manhole/diameter of pipe, age, material, and proximity to waterways, railroads, facilities, and roads. The LOF will be based upon material and age. The water distribution report card grade is based upon diameter/size, pipe redundancy, water consumption, age, 5-year repair history, and proximity to waterways, railroads, facilities, and roads.

Any critical items that are noticed with field investigations will be reflected within the LOF and the City will be notified. A portion of Castle Hills attribute data research was completed during the previous condition assessment and will not be duplicated, only newly mapped areas will be assessed.

The consultant will provide the City with this GIS database and a technical memorandum detailing the analysis process and discuss the results. The new data will be added to the City's dashboard tool and can then be used to develop maintenance and operation plans across all assets, including those that will become City maintenance responsibility upon annexation.

Funding for the project is available in the Castle Hills Annexation Analysis Capital Improvement Project.

RECOMMENDATION

It is City staff's recommendation that the City Council approve the agreement as set forth in the caption above; and authorize the City Manager to execute the agreement.